

Features

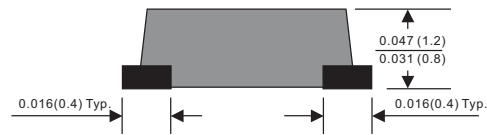
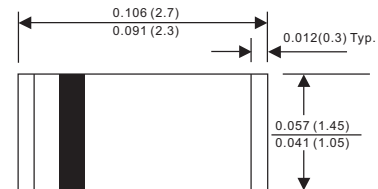
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, very low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Very tiny plastic SMD package.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-323-L
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.008 gram

Package outline

SOD-323-L



Dimensions in inches and (millimeters)

Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|----------------------------|---|-----------------|------|------|------|---------------------------|
| Forward rectified current | See Fig.2 | I_O | | | 1.0 | A |
| Forward surge current | 8.3ms single half sine-wave superimposed on rate load (JEDEC methode) | I_{FSM} | | | 30 | A |
| Reverse current | $V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$ | I_R | | | 1.0 | mA |
| Thermal resistance | Junction to ambient | $R_{\theta JA}$ | | 90 | | $^\circ\text{C}/\text{W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | C_J | | 130 | | pF |
| Storage temperature | | T_{STG} | -55 | | +150 | $^\circ\text{C}$ |

| SYMBOLS | V_{RRM}^{*1} (V) | V_{RMS}^{*2} (V) | V_R^{*3} (V) | V_F^{*4} (V) | Operating temperature T_J , ($^\circ\text{C}$) |
|---------|-----------------------|-----------------------|-------------------|-------------------|---|
| SL12-N | 20 | 14 | 20 | 0.38 | -55 to +100 |
| SL14-N | 40 | 28 | 40 | 0.40 | |

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.0\text{A}$

Rating and characteristic curves (SL12-N THRU SL14-N)

FIG.1-TYPICAL FORWARD

CHARACTERISTICS

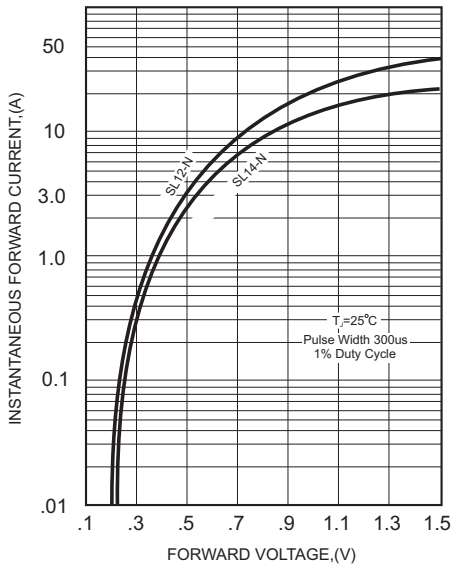


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

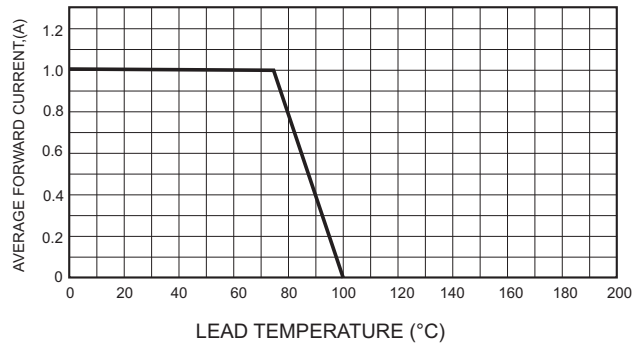


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

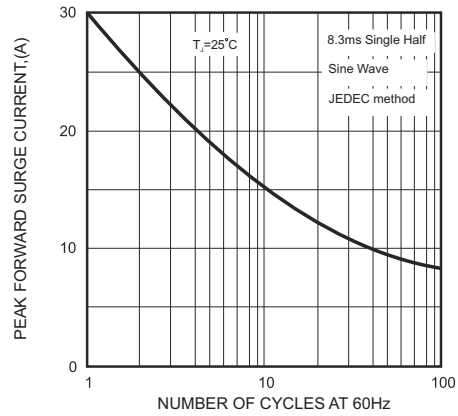


FIG.3 - TYPICAL REVERSE

CHARACTERISTICS

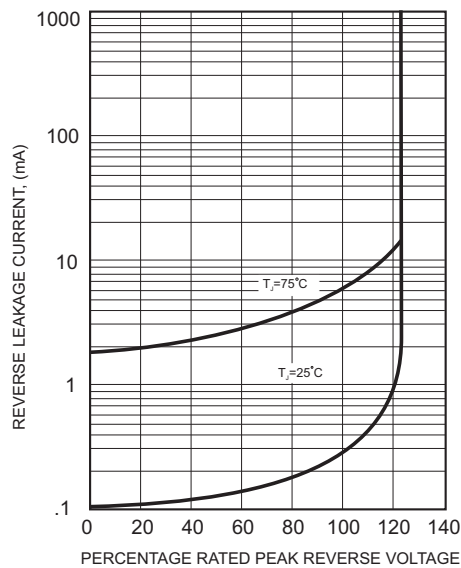
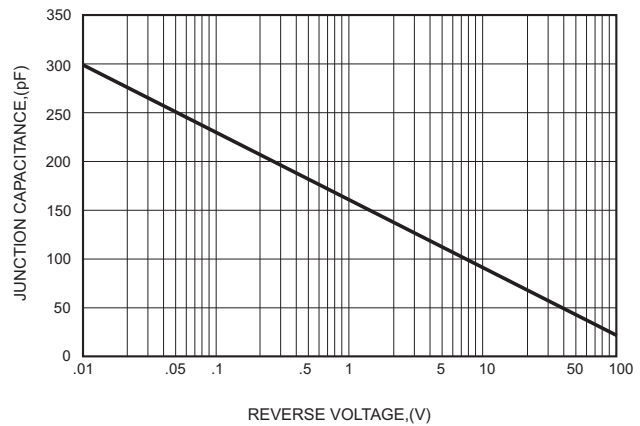


FIG.5-TYPICAL JUNCTION CAPACITANCE



**1.0A LOW VF SCHOTTKY BARRIER RECTIFIERS-20V-40V
SOD-323-L PACKAGE**

**SL12-N
SL14-N**

Pinning information

| Pin | Simplified outline | Symbol |
|----------------------------|--------------------|--------|
| Pin1 cathode Pin2 anode | | |

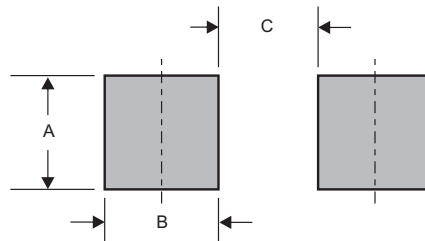
Reel packing

| PACKAGE | REEL SIZE | REEL (pcs) | COMPONENT SPACING (m/m) | BOX (pcs) | INNER BOX (m/m) | REEL DIA, (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|-----------|-----------|------------|-------------------------|-----------|-----------------|-----------------|-------------------|--------------|---------------------------|
| SOD-323-L | 7" | 3,000 | 4.0 | 30,000 | 183*183*123 | 178 | 382*262*387 | 240,000 | 8.0 |

Marking

| Type number | Marking code |
|-------------|--------------|
| SL12-N-TH | L2 |
| SL14-N-TH | L4 |

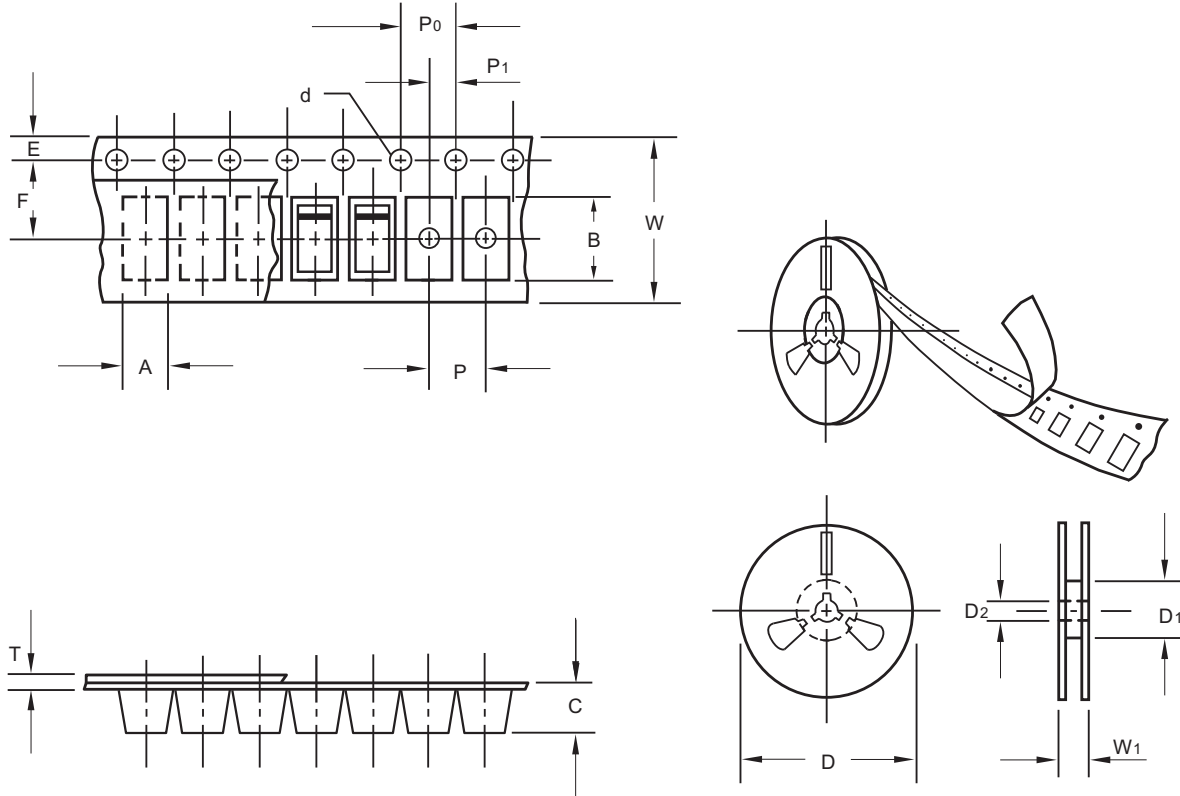
Suggested solder pad layout



Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|-----------|--------------|--------------|--------------|
| SOD-323-L | 0.059 (1.50) | 0.039 (1.00) | 0.051 (1.30) |

Packing information



unit:mm

| Item | Symbol | Tolerance | SOD-323-L |
|---------------------------|--------|-----------|-----------|
| Carrier width | A | 0.1 | 1.47 |
| Carrier length | B | 0.1 | 2.95 |
| Carrier depth | C | 0.1 | 1.15 |
| Sprocket hole | d | 0.1 | 1.50 |
| 13" Reel outside diameter | D | 2.0 | - |
| 13" Reel inner diameter | D1 | min | - |
| 7" Reel outside diameter | D | 2.0 | 178.00 |
| 7" Reel inner diameter | D1 | min | 62.00 |
| Feed hole diameter | D2 | 0.5 | 13.00 |
| Sprocket hole position | E | 0.1 | 1.75 |
| Punch hole position | F | 0.1 | 3.50 |
| Punch hole pitch | P | 0.1 | 4.00 |
| Sprocket hole pitch | P0 | 0.1 | 4.00 |
| Embossment center | P1 | 0.1 | 2.00 |
| Overall tape thickness | T | 0.1 | 0.23 |
| Tape width | W | 0.3 | 8.00 |
| Reel width | W1 | 1.0 | 11.40 |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.